SEVENTEEN CASES OF CHRONIC (RELAPSING) APPENDICITIS, TREATED BY OPERATION.

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It will be seen that ten of the cases reported were females, and seven males. Sixteen were private cases, and one operated on in the amphitheatre of the University College of Medicine; fifteen cases were operated on in St. Luke's Home (my private hospital), and one was operated on in a private house; this last was the fatal case, and the only fatal case of operation for chronic appendicitis that I have had.*

The series of cases embraced operations performed in the interval between the attacks, when all, or nearly all, of the inflammatory symptoms had disappeared—operations done during the quiescent stage, as was originally suggested some years ago by Mr. Frederick Treves. In the series there is not included any case of acute or other form of appendicitis.

You may have seen from the report of my cases that I am not always in a great hurry to operate, but that I am inclined to wait for the more acute symptoms to wear off, and operate, if at all,

*I have operated on three other cases of chronic appendicitis, but the records of these cases are too imperfect to justify reporting them. These three cases recovered.

after suppuration has taken place, or during the quiescent stage, between the attacks.

There are some cases of *appendicitis so slight* that I am satisfied they belong to the doctor and not to the surgeon; very often they are not recognized by the practitioner as appendicular trouble, but put down as bilious colic, localized peritonitis, kidney colic, etc. Under rest, purgation, hot applications, rigid diet, leeches, and the very moderate use of opium, these cases recover, and, in very many instances, stay well. In some of these cases, if, after the attack, you could look at the appendix and structures around it, you would see evidences of inflammation in the shape of slight thickening, induration, and adhesions. If you will examine subjects in any large dissecting-room you will find frequent specimens of this kind. These slight cases of appendicular trouble are not cases for operation. A man's usefulness is not impaired, nor is his life usually shortened by it; indeed, he often gets on through life better than the man with a crippled leg, or the poor fellow who lives for years with a crippled heart. I wish my voice was strong enough, just here, to call a halt to the men who say that, in all cases of appendicitis, you must operate. They say, "Operate at once, not this afternoon or to-morrow, but now," in all cases where the disease is recognized.

There are cases, however, when the disease, instead of abating, grows worse, the temperature gets higher, the pulse more rapid, the lump in the iliac region is larger, the belly is more tender, and possibly a rigor comes on. A slight pitting œdema in the skin over the region of the appendix is sometimes seen. The fluctuation tells us that pus has formed, and the whole aspect of the case is changed. I know I subject myself to severe criticism when I say that, even now, I am not in all cases in a hurry to operate. Possibly the disease has been going on for some days, as is often the case, before the consulting surgeon is called; the symptoms are not so urgent, fluctuation not very distinct, and the barrier of lymph containing the pus is probably strong. I am not in a hurry to operate, because a certain proportion of these cases may get well without it. Recovery is not always impossible, even after some matter is supposed to be present, or is actually there.

Years ago, when I knew less about this subject than I do now, I have punctured the *abscess about the appendix* with the needle of an aspirator, and pumped out some of the pus, and afterward seen the man get well and stay well. One case was that of a Presbyterian preacher in Richmond, whose appendicial abscess I aspirated several times. He is well, and at work now. I don't pretend that this is good surgery, or that I would resort to it at this time; I introduce the fact now to show that recovery may take place after matter has formed. I have seen more than one instance of this, and I have even thought that the violent inflammation rendered the patient free from a second attack. This is certainly not impossible. If a large number of cases of appendicitis are examined, it will be found that a large majority of these cases never have a second attack. It is true that delay in operating may end in the barrier being undone, and purulent irruption into the peritoneal cavity ensue. I have never seen this occur after the third day. I have, however, seen matter burrow down towards the pelvis and bladder, and upward towards the liver. Sometimes, when you operate and open this abscess, you will find it attached to the parietal peritoneum; if so, the operation is simply opening an abscess. Make the opening large enough to introduce your finger, gently search for the appendix, and if you can find it or fæcal concretions, remove them. If the appendix is fastened by adhesions, let it alone. Drain the abscess cavity with a rubber tube and gauze. If you find the abscess not attached to the parietal peritoneum, I would treat the case, if practicable, as I describe in Case XI.

In *acute perforating appendicitis*, I would operate at once. In such cases you cannot operate too soon. You frequently have very violent infection and inflammation, producing gangrene and sloughing of the appendix. The peritoneum is speedily involved, and diffuse septic peritonitis quickly comes on. Very often, in these cases, as soon as the peritoneum is opened there escapes a milky fluid thinner than pus, and it is always most imperfectly, if at all, confined by fibrin. These are the frightful cases, and an early operation alone gives a chance for life. It is these cases of acute perforating appendicitis that have induced many surgeons in this country to urge immediate operation in *every*

case of appendicitis. I cannot subscribe to this doctrine. I have seen too many of the other kind of cases get well without an operation. But when we have a case where the symptoms are ushered in with great rapidity, when the pain is atrocious and the temperature high, the pulse rapid, 110 to 120, when vomiting is persistent, and constipation insuperable; when the belly is tender, and the right iliac region hard; and above all, when the patient's face indicates mortal illness, when he looks indeed like a man shot with a bullet through the belly, you may know that perforation with acute septic peritonitis is imminent, or has already taken place. Operate at once, for delay is fatal. Remove the appendix, wash out the belly with warm normal salt solution—wash it out over and over again, and then drain with strips of iodoform gauze or tubes, or both. Papers of McBurney, Bull, and others, show the value of this. Good washing and free drainage give the only chance for life. These cases are what may be called *fulminating appendicitis*, or general septic peritoneal infection, and run their course quickly. The whole tale is told usually in forty-eight hours.

I have gone over, in a very brief and imperfect way, three forms of appendicitis, to distinguish them from the variety presented in my paper to-day. The cases reported are known as *relapsing*, or *recurrent*, or *chronic appendicitis*, the last name, to my mind, being the most appropriate.

An individual may have an attack of appendicitis; more or less severe, and the symptoms may gradually subside and disappear, and it is very possible he may never have a second attack; but if the first seizure is at all severe, it may happen that the appendix and parts around it are never entirely restored to their original condition; and at variable intervals of time, the attack will recur with greater or less violence. No one can foretell, from the history of the first attack, what the nature of the next attack will be, or when it will occur. I have seen three years intervene between the first and second seizure, and then a savage attack ensue. Dr. George W. Gay, of Boston, who has written a clever article on this subject, reports an interval in his own case of seventeen years between the first and second attack. But the pathological changes caused by the first attack may disappear and a

second seizure never come on, and a patient is entitled to that chance, if he so decide. But if the attacks are repeated, and especially if the intervals between are becoming shorter, and the attacks more violent, then the appendix should be removed. The next attack may be fatal, or at least the man becomes a hopeless invalid.

Ever since Escherich discovered the microbe, which he called bacillus coli communis, it has been almost conclusively demonstrated that this bacillus is the genesis of a certain number of maladies, and chief among them is appendicitis. This micro-organism has its domicile in the digestive track of man and animals, extending from the mouth to the anus. They were for a time regarded as not only inoffensive, but positively useful in the animal economy; but it has been discovered that, under certain circumstances, these microbes may become very virulent and hurtful. Any morbid condition of the bowels makes them virulent; inflammation, obstruction, strangulation, diarrhœa, or constipation, may render this bacillus virulent. Constipation is a common cause; indeed, a very large proportion of the cases of all kinds of appendicitis that I have seen were subjects of habitual constipation. The bacillus coli is generally found in cases of appendicitis alone, or sometimes associated with other pathogenic germs.

The pathological conditions, following one or more attacks of appendicitis, can be partially gathered from the report of my cases. The appendix may be fastened like a strap across the cæcum interfering with the peristalsis of the gut; it may be fixed by adhesions to other parts; it may be bent upon itself, and its lumen occluded by kinking; a portion of the canal may be obliterated and closed at its cæcal end, and the distal end distended to several times its natural size, and filled with mucus or pus, or both; a small abscess may be found around the appendix, walled off strongly by a barrier of well-organized fibrin; or else it is said a foreign body may occupy its canal. I have never seen the last; I have seen soft fæcal matter lying in the canal, and several times hard dry balls of fæcal matter. In one case in Staunton, Va., where I operated for acute appendicitis on a physician's son, the doctor opened the appendix before I completed the oper-

ation, and found what looked like two cherry stones. The two little round smooth balls rattled in a dish as cherry stones would be expected to do, and the mother stated, at the time, that her son had eaten pickled cherries a few days before. I afterwards found, when I mashed the supposed seeds, that they were dry hard fæcal masses. In another patient, a young child I operated on for acute appendicitis for Dr. Moseley, of Richmond, a small white kidney-shaped substance, supposed to be a bean, was found in the discharge; this also proved to be fæcal matter and fat. I know, of course, that foreign bodies are found in the appendix, but in the thirty-six cases of operation in my hands I have never seen one. Pathological change in the appendix must have taken place before a foreign body could be admitted into the canal, and when admitted it would likely be mischievous only as a conveyor of infection.

It is naturally asked, Is medical treatment in these cases of no avail? I confess, when I recall the pathological conditions found in my cases, that medical means, to my mind, can be expected to help but little, if at all. You cannot, in the present state of the science of medicine, expect it to overcome the difficulties that I have just now stated. But it may be urged that the cases may be only of moderate intensity, and the pathological changes may be slight. Unfortunately, we cannot always tell by the symptoms and duration of the attack how much mischief is done to the parts. An apparently slight and insignificant attack may leave the appendix and parts around it hopelessly crippled and diseased, while an apparently savage attack results in trifling mischief. I have operated after two or three comparatively slight attacks, and found the parts so matted and diseased as to tax all of my skill, and only after hard work of an hour and a half completed the task; and I have operated when, from severe and lasting symptoms, I anticipated great trouble, and found but slight disease, and completed the operation in a few moments. However, I am not opposed to medical measures. I confess, as I say, when I recall the state of the parts as I have seen them, I cannot feel hopeful of any treatment short of the knife. Prolonged rest in bed; rest not for days but for weeks; a restricted and regulated diet, purgatives and counter-irritants by

iodine and blisters, massage, and an intestinal antiseptic as salol, constitute the chief remedies, and by them individuals who have had one attack have escaped a subsequent one. It is only fair to say that persons who have had one attack, and who have not pursued the above remedies, but followed their usual course of life, have also escaped a second attack. I am frank to say, however, that I believe the former are more apt to escape than the latter.

The first case reported was not one of good surgery. The appendix should have been removed. That she got well, and has remained well for several years, is evidence rather of good luck than good surgery. These conditions, you know, are sometimes confounded. It teaches, however, the value of persulphate of iron in preventing reunion of separated parts—a fact that I have had repeatedly demonstrated to me before and since that time.

Cases V and VII show the hazard of leaving a raw surface, as the stump, after castration in women, unprotected. It would be better to paint this raw surface over with the iron spoken of, touch it with a hot iron, or a hood of peritoneum from some neighboring tissue may be used.

Cases II, VI and VIII show the influence tubular and ovarian diseases may have upon the appendix.

Case XVII. I think it is not too much to say of this, my only fatal case, that he would probably have recovered if the operation had been done in a well-appointed modern hospital.

Lastly, a few words about the *operation*. I make a clean cut straight down on the most prominent part of the swelling, if there is any, or over the supposed site of the appendix, if there is no swelling. I begin near the anterior superior spinous process, and cut inwards and slightly downwards towards the inner border of the rectus. In fact, the incision is almost transverse. The more nearly transverse it can be made, the better the union afterwards, and the less the danger of subsequent hernia. I am afraid of the plan of separating the fibres of the different planes of muscles with retractors and two assistants. The muscles must be injured, repair of bruised parts slower, hernia more common, and drainage, if needed, less perfect. The incision is

not more than two inches long in the skin and shorter as the cavity is reached. The peritoneum is opened most cautiously, a piece of omentum, or, more important, a portion of the gut may be adherent, and in the line of the incision. After the belly is opened, Trendelenburg's position is of great assistance. If the appendix is difficult to find, look for the anterior bundle of longitudinal muscular fibres of the colon, follow this as a guide, and it will usually lead you to the little organ. When found and separated, if attached, a circular cut through the peritoneal coat is made, and the serous membrane stripped down for half an inch; a fine silk ligature is tied around the muscular and mucous coats of the little process, and the appendix cut off. The ends of the ligature are cut short. The detached serous membrane is now brought back and stitched or tied over the end of the stump.

Any portion of the omentum that has been adherent, and in contact with the appendix, is ligated and cut off; no matter how large a portion it is, if it is injured or suspected of being infected, it is removed. I lost a case, some years ago, by stupidly returning a piece of omentum, that had been in contact with the appendix, and was infected.

The most difficult part of the operation is to deal with the adnesions. It is very important that all adhesions should be undone, if it is possible to do so. A small delicate periosteal elevator is a useful instrument for this purpose. If the adhesions are left untouched, the patient may get well of the operation, but remain an invalid for the rest of his life, liable at any moment to intestinal occlusion, and subject always to tenderness over the abdomen, and to constant gastro-intestinal uneasiness.

Iodoform is freely dusted over any injured places in the peritoneum, drainage of gauze introduced, if deemed necessary, and the wound closed with a continued fine silk suture for the peritoneum, and silkworm-gut sutures for the muscles, fascia, and skin.

Case I.—*Enlarged Appendix Adherent to Cæcum—Appendix Separated and Not Removed—Recovery.*

Mrs. W. H. B., age 30, patient of Dr. A. G. Taylor, of Chula Depot, Va., was admitted to St. Luke's Home October 11, 1893. She had had repeated attacks of appendicitis, accompanied by

pain, nausea, and vomiting, the attacks often lasting five or six days; the duration of one attack was two weeks. Tenderness in the right groin, but no appreciable lump. The abdomen was opened, the appendix found very much enlarged, and firmly adherent to the cæcum; it lay fastened across the organ like a strap. The adhesions were old and well organized, and their separation was difficult, and had to be made with the point of the knife. After being detached from the cæcum, the appendix was found to be five and a half inches long, and as large as my thumb. Just at the junction of the appendix with the cæcum, there was a large hard mass an inch thick, the result of inflammatory deposit. After the appendix was separated from the cæcum, the raw surfaces were rubbed over with Monsel's solution of the per-sulphate of iron, and the cavity of the abdomen closed. Her recovery was uninterrupted.

A letter received at this writing (two years since the operation) from Dr. Taylor, says: "As far as I can judge, her recovery from appendicitis is perfect. She has had a child since the operation, and her health is completely restored."

Case II.—*Elongated Appendix Adherent to Ovary—Both Removed—Recovery.*

Mrs. L. B., age 42, patient of Dr. Stuart McGuire, of Richmond, Va., was admitted to the Virginia Hospital November 24, 1893. Has had five attacks of appendicitis, accompanied by pain, fever, great tenderness in the right groin, and a distinct lump. The last attack was violent, confining her to bed for three weeks. Operation was performed before the Class. After the abdomen was opened, the appendix was found firmly adherent to the right ovary, which was enlarged and inflamed. It was almost impossible to separate these two organs without rupture, and both were removed. The patient made an uninterrupted recovery.

In this case, the appendix was elongated, its cæcal end partially occluded, its free end dilated and distended with gas, and the mucous coat thickened and diseased.

Case III.—*Elongated Appendix, etc., Removed—Recovery.*

Miss L. B., age 16, patient of Dr. J. H. Young, of Burkeville, Va., was admitted to St. Luke's Home November 3, 1893. History of one severe and several slight attacks of appendicitis while at home under the charge of Dr. Young. While at school in this city, she had a very severe attack, which laid her up for several weeks, having fever, pain, tenderness in the right groin, but no distinct lump. The abdomen was opened, and the appendix removed. It was found in its normal position, slightly

congested, and free from adhesions. It was six and a half inches long, measuring about half an inch in diameter. The free extremity was enlarged, the base contracted; it was dense and firm, almost cartilaginous in consistency. After it was removed, it was found that the lumen next to the cæcum was completely occluded for the distance of an inch by inflammatory deposit, and that the mucous membrane which lined the patent portion of the tube was filled with a sero-mucous fluid, probably resulting from catarrhal inflammation. The wound closed, and recovery uneventful.

Case IV.—*Appendix as if of Erectile Tissue—Removed—Recovery.*

Miss A. J., age 30, patient of Dr. H. G. Melvin, of Houston, Va.; admitted to St. Luke's Home December 4, 1893. Had history of several severe attacks of appendicular colic during the past year. It was difficult to tell whether the pain in the right groin was due to trouble of the ovary or appendix. No fever, no swelling; the pain, however, was violent, necessitating the use of morphia, lasting sometimes for hours, and on one or two occasions for days. The abdomen was opened, and the appendix was found at once; it stood up as if made of erectile tissue, and if pressed down, would at once fly up in the erect position; its free end was dilated and filled with gas; for an inch from the cæcum, the little tube was apparently solid. The peritoneal covering was congested. No adhesions. The appendix was removed. The patient made an uninterrupted recovery. The operation was simple and quickly performed. To this date the patient remains well.

Case V.—*Swollen, Elongated and Sharply Flexed Appendix Adherent to Stump of Ovary—Peeled Off and Removed—Recovery.*

Mrs. C. R. H., age 45, patient of Dr. Charles V. Carrington, of Richmond, Va.; admitted to St. Luke's Home December 27, 1894. Two and a half years ago, an operation was performed on this lady by a surgeon in Baltimore for the removal of both ovaries and tubes. Six months ago, she had her first attack of appendicitis, and every two or three weeks since that time an attack occurred, each time after a shorter interval, and each time with more intense symptoms. She had fever, great pain, swelling of the whole flank, but no lump. I opened the abdomen, and found the appendix swollen and congested, and firmly adherent to the stump of the right ovary; it was peeled loose with some difficulty and removed. The appendix was greatly elongated, and sharply bent at its cæcal attachment. The lining membrane of the appendix showed ulcerative changes, and there was a large amount of muco-purulent secretion in it. She recovered without bad symptoms.

Case VI.—*Appendix Adherent to Ovary Containing Dermoid Cyst—Both Removed—Recovery.*

Mrs. M. B. G., age 34, patient of Dr. James B. McCaw, of Richmond, Va.; admitted to St. Luke's Home December 29, 1894. History of griping pains in her right side; pain continuous, and subject to occasional severe exacerbations, which kept her in bed for days. An examination showed considerable enlargement of the right side; vaginal and rectal examination showed large lump in the right iliac region. Although exact diagnosis was not made, it was determined to open the abdomen, find the trouble, and, if possible, remove it. When this was done, the right ovary was found to contain a dermoid cyst about as large as an orange, to which the appendix had grown. It showed some evidence of disease, and it was considered best to remove it, partly for this reasen, and on account of the injury done it in freeing it from its attachment. The dermoid cyst was removed at the same time, and she made an uneventful recovery.

Case VII.—*Sharply Flexed Appendix Containing Fæcal Masses, Adherent to Stump of Ovary—Separated and Removed—Recovery.*

Mrs. F. B. C., age 24, patient of Dr. Henckel, of Staunton, Va.; admitted to St. Luke's Home December 30, 1894. This patient was in my hospital two years ago, at which time I removed her tubes and ovaries, which were extensively diseased. Six months ago—eighteen months after the operation—she had her first attack of appendicitis; she has had in all about five severe attacks, each time confining her to bed, and requiring the use of morphia. The last attack was attended with great pain, swelling, and fever. The abdomen being opened, the appendix was found attached to the stump of the right ovary; it was sharply bent upon itself, and stretched. It was easily separated from its attachments, however, and brought out for inspection. It was found congested, red, and swollen, and after its removal, was seen to contain several hard fæcal masses. Her recovery was uninterrupted.

Case VIII.—*Appendix Adherent to Ovarian Tumor—Both Removed—Recovery.*

Mrs. F. J. T., age 48, patient of Dr. Harrison, of Richmond, Va.; admitted to St. Luke's Home January 9, 1895. This lady had an ovarian tumor of several years' standing, but as for a long time it gave her no trouble, although slowly growing, she declined operative interference. But suddenly, and without any explanation, she began to suffer great pain in the right groin; the pain was continuous. Occasionally, however, she would have a sharp

attack, which confined her to bed. On opening the abdomen, the first thing I saw was the appendix running across the face of the tumor like a little snake. It was firmly adherent, and almost impossible to detach without bursting it or the tumor. I removed it, however, and at the same time the ovarian tumor was taken away. Her recovery was complete.

Case IX.—*Appendix Adherent to Cæcum Transversely, Constricting Bowel—Peeled Off, Leaving Opening in Cæcum, Closed by Sutures—Removed—Recovery.*

Miss N. T. S., age 16, patient of Dr. Stuart McGuire, of Richmond, Va.; admitted to St. Luke's Home March 20, 1895. This young girl had had several attacks of acute appendicitis during the past year, but as three or four months passed and no return of the trouble appeared, her parents sent her to Washington City to school. While there, she had a pretty severe attack—pain in the right side, swelling, muscular rigidity, constipation, and fever. Her parents brought her back after the attack subsided, and I deemed it best, after examination, to remove the appendix. The abdomen was opened, the appendix found closely adherent to the cæcum, going transversely across this organ, and somewhat constricting the lumen of the bowel. It was peeled loose after a great deal of trouble and removed. A small opening was made in the cæcum in detaching this appendix, which was closed with fine silk sutures. Her recovery was uninterrupted.

Case X.—*Elongated Appendix Doubled on Itself, Adherent to Cæcum. Omentum also Adherent—Separated—Omentum Sliced, Ligated, Removed—Releasing an Adherent Coil of Intestines—Appendix Full of Fæces—Removed—Recovery.*

Mrs. E. B. B., age 35, patient of Dr. R. E. Franklin, of Richmand, Va.; admitted to St. Luke's Home March 29, 1895. This lady had been suffering with great trouble for the last six months. The pain was usually confined to the right iliac region, but occasionally extended all over the abdomen. The attack would begin with pain about the umbilicus and extend all over the abdomen, and as it subsided, left great tenderness and soreness in the right iliac region. She was very fat, and an examination failed to determine the exact nature of the trouble. Her last attack kept her in bed for weeks, during which time she had fever, great pain, without appetite, and constipation difficult to overcome, and her life was thought to be in great danger by her attendant physician and by myself, who saw her in consultation. The abdomen was opened, and the appendix was found doubled on itself and fastened to the cæcum; it was dense and firm in consistency, and of unusual length. The omentum was closely ad-

herent to the cæcum and appendix. After separating the omental adhesions, a large slice of the omentum was ligated and removed. An adherent coil of the intestines was also released. The appendix was removed, and found full of fæcal matter. The patient recovered without a bad symptom.

CASE XI.—*Omentum Adherent to Parietal Peritoneum—Abscess Appendix Detached—Removed, with Fæcal Lumps—Recovery.*

Mr. G. H. G., age 17, patient of Dr. W. L. Drewry, of Wakefield, Va., entered St. Luke's Home, December —, 1893. Had history of several attacks of chronic relapsing appendicitis, the last one only a short time ago. This was very severe, and he was obliged to take a good deal of opium. Along with the pain was fever. His belly, even now, is swollen, and there is tenderness all over the abdomen, but especially in the right iliac region, where there is a distinct lump. I operated on him, and came down, after the abdomen was opened, upon the omentum, slightly adherent to the parietal peritoneum. By palpation I could feel through the thin piece of omentum an abscess cavity. Before opening this, I stitched the surface of the omentum to the parietal peritoneum, so as to keep the peritoneal cavity from the contents of the abscess. I did this stitching very carefully with fine silk, taking some time to accomplish it. After carefully packing gauze around the edges of the opening, I carried the knife through the omentum into the abscess cavity, following it with my finger. I found the detached appendix, which was easily removed, along with one or two hard, small fæcal lumps. The cavity was then washed out carefully, a drainage tube of rubber introduced, and the wound closed. The man made an uneventful recovery.

A letter just received this month from his father, W. C. G., says that he is now hale and hearty, weighing 160 pounds, and has never had a bad symptom since the operation.

CASE XII.—*Omentum Covering and Adherent to Cæcum—Separated—Omentum Ligated and Removed—Appendix filled with Pus, Adherent to Cæcum—Removed—Recovery.*

Mr. W. C. B., age 27, patient of Dr. Keister, of South Boston, Va., admitted to St. Luke's Home, April 6th, 1895. This gentleman has had fourteen attacks of appendicitis, each time getting more and more severe. I examined him some months ago, and advised an operation, but he declined. Three weeks ago he had a very severe attack, attended by fever, great pain, the pain lasting for two days; constipation, with swelling of the abdomen, and tenderness over the right iliac region; no lump could be felt. Opened the abdomen, and found the omentum covering the cæcum, and adherent to that organ, and difficult to detach. After separation, a portion of the omentum was ligated and cut

away. Several points of adherent bowel were separated. The appendix was fastened to the cæcum for the greater portion of its length, and was detached with difficulty. It was found after removal to be filled with foul-smelling pus. Parts about cæcum looked dirty, brown, and friable. Gauze drainage was used and the cavity closed. The drainage was permitted to stay for three days and then removed. He made a good and speedy recovery, without any bad symptoms. Operation in this case lasted one hour and fifteen minutes.

Case XIII.—*Omentum Adherent to Cæcum—Hole Left in Bowel on Separation—Sewed Up—Appendix containing Bodies Like Boiled Rice, but no Pus—Removed—Recovery.*

Mr. C. R., age 30, patient of Dr. Lewis Wheat, of Richmond, Va., entered St. Luke's Home, April 25, 1895. He has had three attacks of appendicitis, the last one very severe, keeping him in bed for three weeks, attended by rise of temperature, great pain and swelling, with a distinct lump in the region of the cæcum. I saw him at this time in consultation with Dr. Wheat, and advised him not to have the operation done until the fever and acute symptoms had disappeared. I operated on him April 25th, six weeks after the subsidence of the last acute attack. Found very extensive adhesions and the omentum fastened to the cæcum. The adhesions were hard to break up. I found three points of adherent coils of intestines, which were separated with great care, and took a good deal of time. The appendix was fastened tightly to the cæcum, and in detaching it I made a hole in the bowel about half an inch long and a quarter of an inch wide. This was immediately sewed up with fine silk, and the appendix removed. It was found, after removal, to be closed at its cæcal end. It contained a large quantity of bodies like boiled rice, but no pus. Inserted gauze drainage, and closed the wound. The next morning he was doing so well that the House Surgeon removed the gauze drainage, although the discharge had been very free. As soon as the gauze was removed, he began to get worse; his temperature went up to 101. That night, fortunately, I was able to replace the gauze and re-establish the drainage. The improvement was immediate, and his recovery after that was uneventful.

Case XIV.—*Appendix Underneath Cæcum, which was Adherent to Iliac Fossa—Appendix, filled with Pus, Adherent to Peritoneum—Recovery.*

Mr. H. B. L., age 21, patient of Dr. David Lucas, of Quinton, Va., entered St. Luke's Home, March 22, 1895. This man has had ten attacks of appendicitis, each one becoming more and more violent; his physician was compelled to give him large

doses of opium during every attack, to relieve the pain. He had swelling in the right groin, great tenderness in that region, and habitual constipation, requiring large doses of medicine to move his bowels. I opened the abdomen March 24th; found the appendix, with great difficulty, underneath the cæcum, which organ was adherent to the iliac-fossa, and had to be detached. The appendix, when found, was adherent for three-quarters of an inch of its free end to the peritoneum covering the iliac vessels. It was closed for about an inch of its cæcal portion. The free end of it was bulbous, swollen, dilated, and filled with dirty, foul-smelling pus. Around the appendix in the iliac-fossa was deposited quite a quantity of stuff, which looked like boiled custard, probably about an ounce of it in all in that region. This was scraped out, curetted, and the cavity dusted thickly with iodoform. Gauze drainage was freely used in this case, being allowed to remain for three and a half days. It was then removed, and his recovery was uneventful.

Case XV.—*Omentum Adherent to Abdominal Wall and Cæum Detached, Ligated, Removed—Appendix Imbedded in Inflammatory Deposit, Perforated at End and Rotten—Removed—Recovery.*

Mr. A. A. M., age 28, telegraph operator, patient of Dr. C. V. Robinson, of Petersburg, Va., entered St. Luke's Home, February 4th, 1895. He has had repeated attacks of appendicitis in the last two years, the last one being very severe, attended by vomiting, pain, fever, etc. The last attack kept the man in bed for three weeks. He never was entirely free from some abdominal trouble after the first attack. The right iliac region has been constantly sore upon pressure, or on taking too much exercise, and there was a distinct lump. The operation was performed February 5th. The usual incision was made and the abdomen opened. The omentum was fastened to the cæcum and to the anterior abdominal wall. It was detached without difficulty, however, and the detached portion ligated and removed. The appendix was found upon the inner side of the cæcum, imbedded in a mass of inflammatory deposit. The adhesions were difficult to break, and at one time I was almost on the point of abandoning the attempt at finding the appendix. When, however, the adhesions were completely removed, the appendix was found enlarged, swollen, perforated at its extremity, and so rotten that it was with great difficulty that it could be handled and tied off. I was obliged to handle it with the greatest gentleness to keep it from bursting. On the inner side of the cæcum, at the site occupied by the appendix, was a cavity filled with some boiled custard-like stuff. This was scooped out, curetted, and covered with

iodoform. Gauze drainage was used very freely, and the wound closed. It was impossible, in this case, to cover over the stump of the appendix with peritoneum, as I usually do. However, before I dropped the stump, I applied to the dirty, foul mucous membrane, in the center, the sharp point of a thermo-cautery, searing completely its free surface. The gauze drainage was permitted to remain for three days, when it was removed, and the man recovered, without any untoward symptoms.

June 5th, four months after the operation, an abscess formed in the abdominal wall, not in the cavity of the belly. This abscess was opened and drained by Drs. Budd and Robinson. The man came to see me August 1st, quite well again.

CASE XVI.—*Appendix Blended with Bowel—Stripped from Cæcum—Removed—Recovery.*

Mr. G. M., age 29, book-keeper, patient of Dr. Lewis Harvie, of Danville, Va., entered St. Luke's Home, June 17, 1895. He has had repeated attacks of appendicitis, which began about eighteen months ago, and recurred every two or three months. One attack kept him in bed for six weeks. He had decided swelling in the right iliac region. The man is frail and exceedingly delicate at best. As a boy he was threatened with phthisis. He has now occasional attacks of diarrhœa, difficult to control. He is tall, thin, and pale. I operated on him June 18th, making the incision in the usual way. Found that the swelling was due to distension of a portion of the cæcum. The appendix was small, fastened like a strap to the cæcum, and intimately blended with the bowel. I removed it in the usual way, stripping it loose from the cæcum, although it was difficult to do, and I was compelled sometimes to use the point of the knife. Gauze drainage. The man recovered without a bad symptom.

CASE XVII.—*Omentum Adherent to Bowel—Appendix Hidden in Adhesions, was Distended with Muco-Pus, and Studded with Points like Mortification—Removed—Septic Peritonitis—Death.*

Mr. J. H., age 28, patient of Drs. Austin and McChesney, of Lewisburg, W. Va. Had repeated attacks of appendicitis, requiring the free use of morphia to stop the pain. His general health has been impaired by the attacks. The most severe one was in the spring of last year, which confined him to bed for some time. He was never free from pain, and was tender on pressure over the region of the appendix. He came to see Dr. Stuart McGuire several weeks ago, at the White Sulphur Springs, W. Va., who advised him to come to St. Luke's Home to have the operation done. He preferred to have it done at the White Sulphur, because the weather was so warm, and he could have Dr. Stuart

McGuire to attend to the after treatment. I operated on him June 25th, 1895. Found the adhesions very extensive, and the omentum fastened to the bowel in many places. The appendix was distended and enlarged and filled with muco-pus, and its walls studded with numerous small, dark points; these points looked as if mortification had taken place. The operation was an exceedingly difficult one; the appendix was hidden under a mass of adhesions, which were old and well organized, and it was not until I had separated a great many of these adhesions, that I was able to find the appendix at all. Gauze drainage was used, and the patient did well for twenty-four hours. His temperature, the morning after the operation, was 99°. Slight vomiting of bile that morning. About 2 o'clock, the second day, his temperature rose to 101°, at four $102\frac{3}{5}$°, at five 103°. Dr. Stuart McGuire had given him five grains of calomel that morning, and afterwards sulphate of magnesia, both of which, however, were rejected. Enemata were used, the long rectal tube was employed, but all failed to move his bowels. The next day, Dr. Stuart McGuire cut the stitches and opened the wound; found a pint or more of bloody serum in the cavity, the small intestines distended with gas, and a small piece of the omentum which I had detached was fastened to the bowel in the neighborhood. These were all broken loose, the abdomen flushed out, and a great many drains of sterilized gauze were inserted. The patient rallied well, and an hour later was apparently better than before this secondary operation. About dark, however, he began to fail, and died at 10:20 that night from septic peritonitis.